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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,204	03/23/2001	Masayuki Kobayashi	F-6917	5830

7590 11/03/2003

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EXAMINER
HAVAN, THU THAO

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 11/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/816,204	Applicant(s) KOBAYASHI, MASAYUKI	
	Examiner Thu-Thao Havan	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *6* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Response to Amendment

1. Claims **1 and 4-11** are pending in the present application.

Response to Arguments

2. Applicant's arguments filed August 25, 2003 have been fully considered but they are not persuasive. As addressed below, Suzuoki et al. and Yasui et al. teach the claimed limitations.

Suzuoki teaches calculating means for calculating two-dimensional coordinates of a second texture projectively transforming three-dimensional coordinates of vertexes of the polygon drawn by the polygon drawing means on an imaginary two-dimensional plane which is prepared in advance and corresponds to the two-dimensional coordinates (col. 3, line 50 to col. 4, line 10; col. 4, line 62 to col. 5, line 40; figs. 2, 5a-5c, and 7). In figure 2, Suzuoki discloses calculation of slope of polygon in three-dimensional to two-dimensional coordinate conversion transformation. Furthermore, in figure 7, Suzuoki discloses the background in two-dimensional format that's prepared in advance while the three-dimensional coordinates are in the letters A, B, C. For example, the computer generated image operation the image synthesis unit executes a slope calculation and a polygon drawing. The polygon data in the main memory, which was sorted by the CPU, is sent to the image synthesis unit in the sorted order and a slope is calculated by a slope calculating unit that is part of the image synthesis unit. The slope calculation is a calculation to obtain a slope of a plane of the modified mapping data when the inside of a polygon is filled with mapping data in the drawing of

a polygon. In the case of texture, the polygon is filled with texture data and in the case of Gouraud shading, the polygon is filled with luminance values. The coordinate transformation unit executes a 3-dimensional coordinate transformation and a conversion from 3-dimensional data to 2-dimensional data for displayed on the screen. The coordinate transformation unit and the main memory can perform direct memory access (DMA) transfer of the data by the DMA controller. The coordinate transformation unit apparatus obtains the data from the main memory through the system bus and executes a coordinate transformation of the data and then again transfers the converted data back into the main memory through the system bus. Data of an object represented in the 3-dimensional space comprises modeling data indicative of a shape of the object and geometry data indicative of the coordinate position and orientation of the object to be displayed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims **1 and 4-11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuoki et al. (US patent no. 5,537,224) in view of Yasui et al. (US patent no. 6,320,580).

Re claim **1**, Suzuoki teaches A.) a system for projectively transforming a plurality of polygons, which form three-dimensional object located in an imaginary three-dimensional space, to a viewport coordinate system to draw the polygons on a projection plane (col. 3, lines 9-44; figs. 1 and 7); in other words, Suzuoki teaches a computer game system transforming polygons such as letter A, B, and C in figure 7 in a coordinate transformation unit of figure 1 in a virtual three-dimensional space; B.) a polygon drawing means for drawing a polygon with a first texture which affects drawing of other texture (col. 4, lines 10-61); in other words, Suzuoki teaches mapping the texture to the image of a polygon in that the texture is dynamically rewritten and changes in the texture of the moving image. Thus when one texture being change then other textures is also being altered; C.) a second texture drawing means for drawing a second texture, prepared in advance, on the polygon drawn by the polygon drawing means based on two-dimensional coordinates of the second texture (col. 4, line 62 to col. 5, line 40; figs. 2, 5a-5c, and 7); in other words, figure 7 of Suzuoki discloses the background in two-dimensional format that's prepared in advance; D.) a texture moving means for simulatively moving the second texture, drawn by the second texture drawing means, on the polygon drawn by the polygon drawing means by varying the two-dimensional coordinates in time-series (col. 3, line 50 to col. 5, line 40; figs. 7-8); in other words, Suzuoki teaches the cube (i.e. the second texture) is being vary by the movement in a moving image data in a texture area of the image memory; and E.) calculating means for calculating two-dimensional coordinates of a second texture projectively transforming three-dimensional coordinates of vertexes of the polygon

drawn by the polygon drawing means on an imaginary two-dimensional plane which is prepared in advance and corresponds to the two-dimensional coordinates (col. 3, line 50 to col. 4, line 10; col. 4, line 62 to col. 5, line 40; figs. 2, 5a-5c, and 7). In figure 2, Suzuoki discloses calculation of slope of polygon in three-dimensional to two-dimensional coordinate conversion transformation. Furthermore, in figure 7, he discloses the background in two-dimensional format that's prepared in advance while the three-dimensional coordinates are in the letters A, B, C.

Suzuoki *fails* to explicitly teach as claimed a game system. Yasui, on the other hand, specifically teaches a game system for an image processing apparatus capable of efficiently performing a computation for processing of a plurality of polygons and a simulation program generates polygons which form an object to be displayed (col. 1, lines 5-52). The polygons in the display screen are clipped based on the polygon data, and for the clipped polygons, the 3D coordinates of the vertexes are scan-converted to two-dimensional coordinates on the display screen.

Therefore, taking the combined teaching of Suzuoki and Yasui as a whole, it would have been obvious to combine the teaching of Yasui to the system of Suzuoki because doing so would have enabled changing polygons in three dimensional game machine to implement frame by frame changing images as noted in Yasui (Yasui: col. 1, lines 5-52).

Re claim **4**, Yasui teaches luminance of colors of the second texture is different in different areas in the second texture (col. 2, lines 6-29). Yasui teaches blending the

colors of a polygon with the color of polygon located in the background. When blending colors then the color textures are different.

Re claim **5**, Yasui teaches luminance of colors of the second texture vary in proportion to coordinate value in either one direction of the two-dimensional coordinates if the two-dimensional coordinates are fixed (figs. 48 and 51).

Re claim **6**, Suzuoki teaches a part of the second texture undergoes an affect of gradation by the first texture (col. 4, lines 10-61). In other words, Suzuoki teaches mapping the texture to the image of a polygon in that the texture is dynamically rewritten and changes in the texture of the moving image. Thus, when one texture being change then other texture is also being altered.

Re claim **7**, Suzuoki teaches gradation is executed by mixing the colors of the first texture and the colors of the second texture with a predetermined mixing ratio (col. 5, lines 3-33; fig. 8). The color look-up table of Suzuoki discloses gradation is executed by mixing the colors.

Re claims **8-11**, these limitations are being treated with the same grounds of rejection as claim 1 above.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Inquiries

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan
Art Unit: 2672

October 21, 2003

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600